AVL-115 USER MANUAL

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1.Safety Information

2. As this unit has the ability to track, users should make use of this unit in legal right. Users have to take all the responsibilities if invading others' rights by illegally using this unit, for example: invading others' secrets on purpose.
3. This unit gets relative position information through Global Positioning system (GPS). By the limitation of GPS, it is normal if the position is drifted and unstable.
4. The accuracy of GPS mobile position and global positioning system is maintained by DOD(United States Department of Defense). Base on public policy and national security, USA reserves the right to change the GPS system and precision without warning.
5. This unit has GSMMHZ, 850/900/1800/1900MHz and GPRS module, Customer should purchase a SIM card from local store. The service has to including the voice message, SMS and is able to cancel the SIM code.
6. Before using this unit, please log on platform, click the operation guide and please follow "Quick Start Guide" to configure the setup. Then the unit is ready to start working.
7. Do not dismount the antenna randomly, or use other antennas. This may interfere the transmission, and increase the radiation as well. This may will damage human health.
8. After switch on, you can set anytime to transmit position information to service platform for search.
9. This unit belongs to high frequent equipment. It may explode or damage in the environment with flammable liquids.
10. Do not disassemble or refit the unit
11. Services should be requested if damage happens to this unit. For examples, any liquid or dust contaminating this unit, exposure to rain or extreme humid environment, working abnormality

Warning

1. If customers dissemble the machine by themselves, the guarantee will invalid.
2. The unit requires stable receptions from GPS and GSM systems. It may result in positioning difficulty if reception signal is too low.
3. It is normal to hear the sound when you shake the unit because contain the motion sense.

2. Main Function

1. Location and tracking: Getting address by SMS or GPRS or getting more information through internet.
2. SMS: address and status feedback in multiple languages
3. Individual tracking software (free of charge):
   Real-time
   Multiple views
   History tracking
   Geo fence,
   Speeding alert
4. Internal antenna
5. Back up battery in case thief cut cable line
6. LBS (location based service), GPS, and GSM mobile networks position
7. Multiple user management (admin, user, and more)
8. The AVL115 is Global Quad-Band GSM 850/900/1800/1900 Mhz and GPRS TCP/UDP
9. Send e-mail or SMS when alarm
10. Used map: Google map
11. Auto tracking: Setup the intervals you want the tracker report to you.
12. Movement Alert: Send SMS to the unit to start the movement alert function. When the vehicle is moving, the unit will send the movement alert to the authorized numbers.
13. Supports multiple languages(English, Simple Chinese, Traditional Chinese, Spanish, Turkish)

3. Getting start with AVL115

3-1Accessories

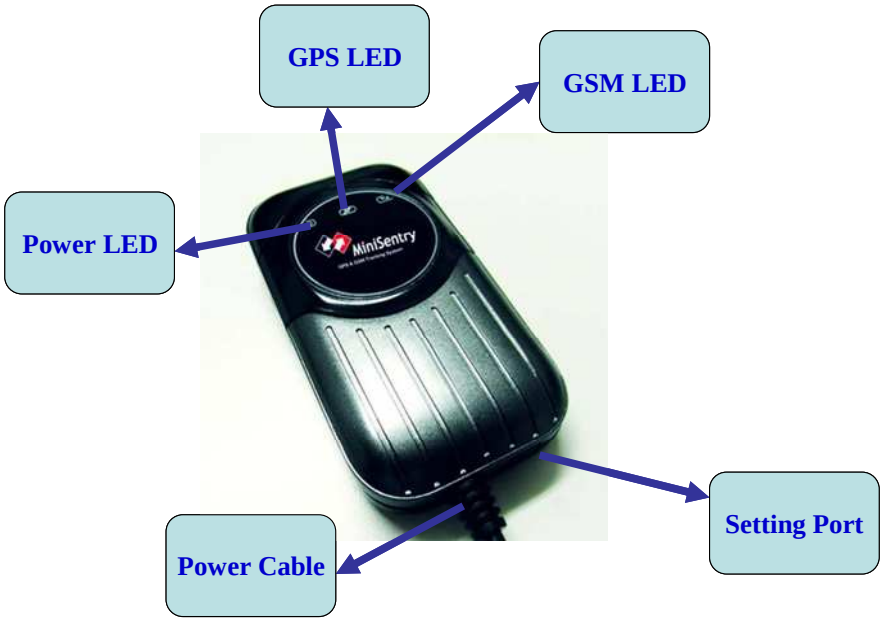
AVL 115 Tracker body

Two Screw

Wiring

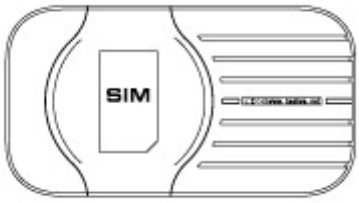
User manual
Hardware description
Notice: If item is missing or damaged, repack the tracker and return it to your reseller.

3-2Identifying Components



3-3Insert SIM card

Insert SIM as following, open the cover, and put the SIM card into the holder and turn the foil right.



Open the rear cover

Push the foil along and turn it up.

Put the SIM card into the holder, and turn the foil right and fasten it in place.

Put the cover back

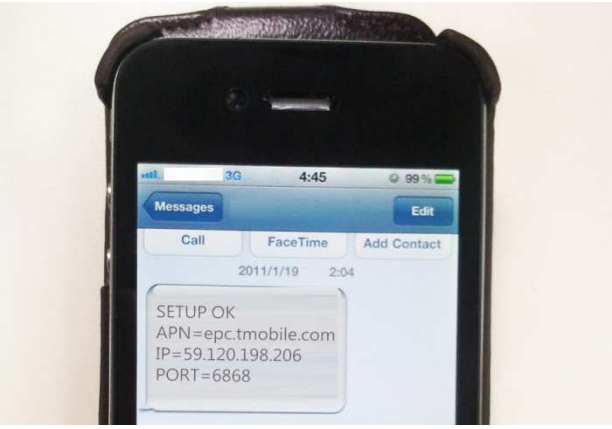
Note:

1. Make sure that the installed SIM card is workable.
2. Make sure that SIM card is cancelled.(Install SIM to mobile phone to cancel the SIM lock)

3-4 Setting APN

Using your mobile phone to set the APN, firstly, send SMS 510#0000#Internet to the unit number. (0000 is your default password, internet is your local APN, APN is different in different area, for example, APN in USA is epc.tmobile.com and therefore, user has to check your APN first from your operator)

If APN is epc.tmobile.com and the setting is successful, the unit will send response "SETUP OK: APN= epc.tmobile.com IP=59.120.198.206 PORT=6868"



(See more operation in 5-1)

3-5LED Signal Definitions

Indication	Conditions	LED display
Service	Limit service (no sim card in)	Red LED On (Power) Blue LED On (GPS) Orange LED On (GPRS)
	No GPRS service (no signal)	Orange LED on
	GPS Not Fixed	Blue LED On
Mode	GPS Not Fixed GPS Fixed	Blue LED On Blue LED blinking
	GPRS Not connection GPRS connection	Orange LED on Orange LED blinking
	Working	Red LED On

4. Operation

4-1SMS Command list

To locate the GPS tracker position, if require anytime.

A:SMS: Send 720#0000 in SMS to unit to locate tracker position.

(0000 is password currently, please change in the platform.)

B: Voice Surveillance

Direct to locate SIM card position by phone, dial the tracker phone number and hang up after two beep, the SMS will automatically be sent to the user to inform the location of the tracker.(Warning: Remember to set SIM card display ID function)

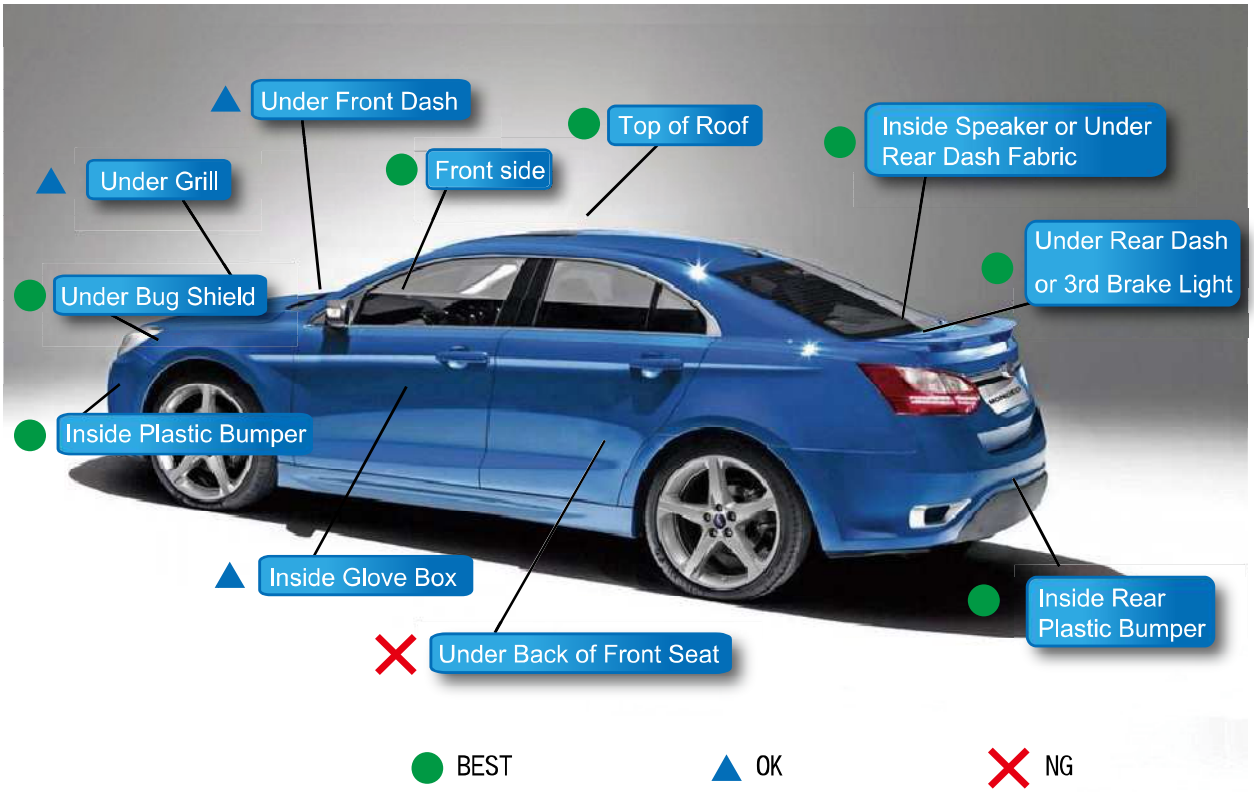
SMS Command	Example	Response	Description
001	001#0000	AVL115B101019Bestwe	Acquire Version
111	111#0000	Current address	SMS response address
410	410#0000	IMEI = 355543020119954	Response the number of IMEI
510	510#0000#cmnet	SETUP OK: APN=cmnet IP=59.120.198.206 PORT=6868	Setting APN/IP/Port
520	520#0000	APN=cmnet IP=59.120.198.206 PORT=6868	Setting APN/IP/Port
720	720#0000	PARK OFF !	Unlock Park security alarm
721	721#0000	PARK ON !	Setting Park security alarm
937	937#0000#0	Engine OFF !	Cut off Engine (Oil)
937	937#0000#1	Engine ON !	Release
Park Alarm	Tracker automatic send	Park alarm: Current address	After setting Park alarm. It will send SMS to host if car move.
Car power off	Tracker automatic send	Car Power Off: current address	If main power be cut, it will change to use back up battery.
Call Tracker & hand up	Tracker automatic send	Current address	SMS response address

4-2 Security alarm system

If tracker has been cut main power by thief, it will send SMS to inform customer and continue track

the unit position by using back up battery. It will be powerful function to protect your property.

4-3 Installation instruction



Recommend setting position in car

1. Hide the tracker under windscreen.
2. Hide the tracker inside plastic bumper
3. Hide the tracker under rear dash or 3rd brake light
4. Hide the tracker under bug shield
5. Hide the tracker on top of roof
6. Hide the tracker inside speaker or under rear dash fabric
7. Hide the tracker inside rear plastic bumper

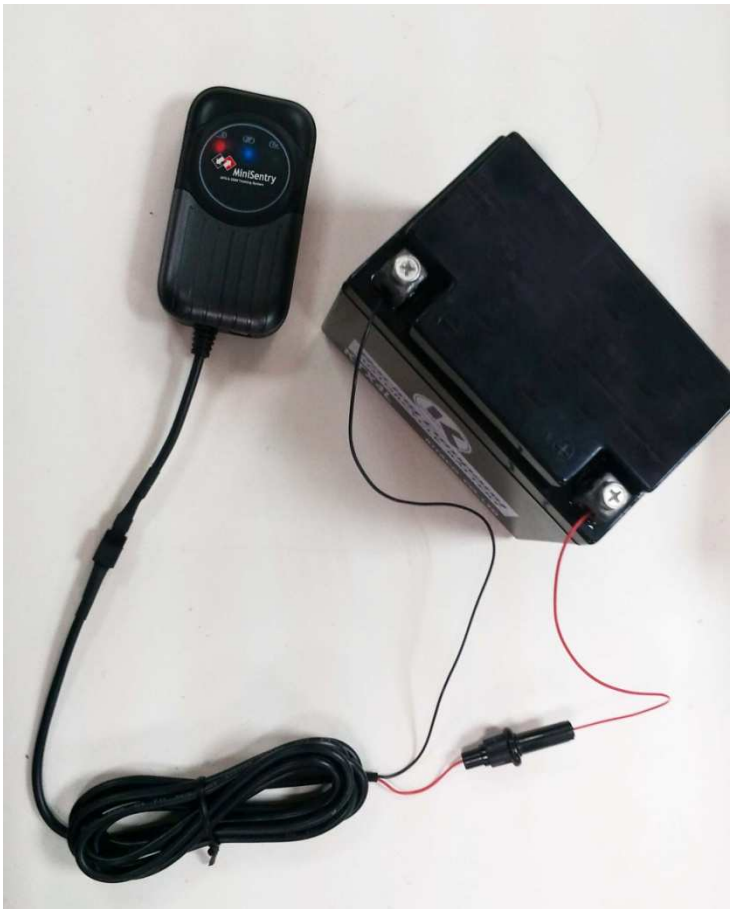
Environmental Specifications

Item	Description	Specification
Temperature	Operating range	-10 ℃ to 55 ℃
	Storage range	-20 ℃ to 70 ℃
Humidity	up to 95% non-condensing	

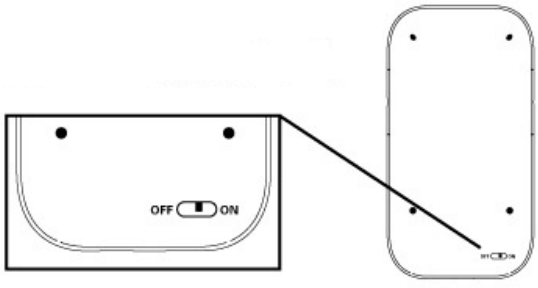
Warning: If the windshield affixed to the metal Sun Control Film ,this will reduce the GPS signal reception and cause malfunctioning GPS. Therefore, we recommend to replace the installation location.

4-4 Installation notice

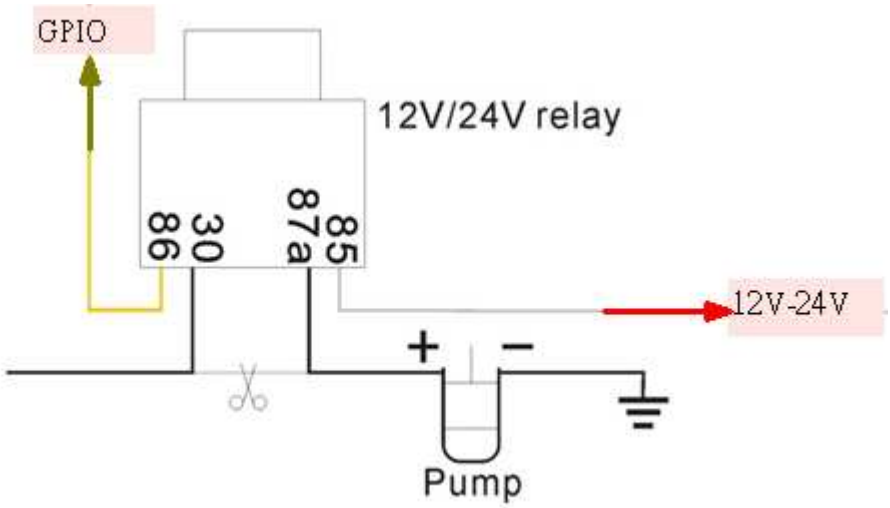
1. Connect with 12V battery. Remember to set positive and negative level on right way.(Block is negative level)



2. Please remember setting as following; turn the back battery power on.



3. CUT off Engin (Oil)



5. Specification

GPS Specifications

Item	Description	Specification
Chipset	Skytraq	Venus638LPx
Sensitivity	Tracking	-161dBm
General	Frequency	L1, 1575.42 MHz
	C/A code	1.023 MHz chip rate
	Channels	51 Channel Acquisitions 14 Channel Tracking
Datum	Default	WGS-84
Accuracy	Position	2.5m CEP
	Velocity	0.1 meters/second
	Time	300ns
Time to First Fix (TTFF)	Reacquisition	0.1 sec., average
Open Sky & Stationary Requirements	Hot start	1 sec., average typical TTFF @ -130dBm
	Warm start	28 sec., average typical TTFF@ -130dBm
	Cold start	29 sec., average typical TTFF@ -130dBm

Dynamic Conditions	Acceleration	4g, max.

GSM/GPRS Specifications

Item	Description	specification
Air Interface	GSM or GPRS Quad Band	850/900/1800/1900MHz Support Class 12 GPRS
	Protocol Stack	GSM Rel.97. STK Rel.99 GPRS Rel4.0 Class 10
	Output Power	Class 4 (2W) at 850/900 MHz Class 1 (1W) at 1800/1900 MHz
GSM Sensitivity	850/900 MHz	-108 dBm
	1800/1900 MHz	-107 dBm
Messaging	SMS concatenated	Yes
	Smart messaging(GPRS)	Yes

Electrical Specifications

Item	Description	Specification
Supply voltage	From Car Power	9 V – 40V
Power consumption	Operation mode (GSM)	130mA~ 270mA
	Standby mode (Trace On)	70±5mA
	Power saving mode (Trace Off)	7mA

6. Fault and solution

The Chart below shows the possible unusual conditions and methods to solve the problems; you may try solving the problem according to the suggested instructions before consulting the service engineer.

Fault	Solution
The tracker is not able to be activated.	Please check if the SIM Lock is cancelled.
All the three LED are on after turning on the device.	Please check if the SIM card is installed properly.
Fail to receive the SMS report from the tracker.	Dial the SIM number to check if this SIM is workable or not. Check with the provider if this SIM runs out of credit or does not open the SMS function.
The GPRS is unable to upload the coordinates.	Make sure the APN and IP/Port settings are correct.
There is screw-like noise while	The tracker is built-in with a sensor ball and it is normal to hear the

shaking the tracker.	noise while the sensor ball is moving.

7. Certification and Safety

Approvals/General Information Caution

Important information regarding safe and efficient operation: Read this information before using the product. Users are not permitted to make changes or modify the device in any way. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Disclaimer

The information in this document is subject to change without notice. The manufacturer makes no representations or warranties with respect to the contents hereof and specifically disclaim any implied warranties of merchantability or fitness for any particular purpose. The manufacturer reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of the manufacturer to notify any person of such revision or changes.

Operation is subject to the following two conditions:

This device may not cause interference and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Europe–EU Declaration of Conformity

This device complies with the specifications EN301489, EN55022, EN55024, EN300440, EN301511, EN60950_1, EN50360 and EN62209_1 following the provisions of the R&TTE Directive